

PATENT APPLICATION TRANSMITTAL LETTER

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TO THE ASSISTANT COMMISSIONER FOR PATENTS

Transmitted herewith for filing under 35 U.S.C. 111 and 37 C.F.R. 1.53 is the patent application of:

ERIC C. HANNAH AND MICHAEL BOYD

For: ENSURING THAT ADVERTISEMENTS ARE PLAYED

Enclosed are:

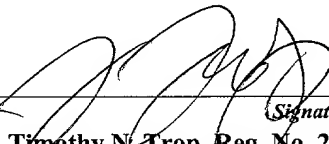
- ☒ Certificate of Mailing with Express Mail Mailing Label No. EL669041672US
- ☒ Two (2) sheets of drawings.
- ☐ A certified copy of a application.
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CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	26	- 20 =	6	x \$18.00	\$108.00
Indep. Claims	3	- 3 =	0	x \$80.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$710.00
TOTAL FILING FEE					\$818.00

- ☒ A check in the amount of \$818.00 to cover the filing fee is enclosed.
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- ☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: October 17, 2000


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APPLICATION

FOR

UNITED STATES LETTERS PATENT

TITLE: ENSURING THAT ADVERTISEMENTS ARE PLAYED

INVENTORS: ERIC C. HANNAH AND MICHAEL BOYD

Express Mail No. EL669041672US

Date: October 17, 2000

00690513-10100

ENSURING THAT ADVERTISEMENTS ARE PLAYED

Background

This invention relates generally to advertising
insertion in audio, video, game, or software content
5 distribution systems.

Systems are available for distributing a wide variety
of content to users. In some cases, the users may select a
particular content they wish to play. In many cases, it is
desirable to insert commercials or advertisements into the
10 content as the content is selected.

In one model, in return for a given number of
advertisement viewings, the user may be entitled to play a
certain amount of content. Thus, it is important to ensure
that the user actually plays the advertising material.

15 A variety of stripping programs, fast forwarding
functions, muting and masking functions are available in
digital playback devices. The risk arises for advertisers
that the users may avoid actually playing the advertising
material in a human understandable way. If the advertising
20 material is never played, it will have no effect.

The net effect of such circumvention may be that free
or low cost content may not be made available. In other
words, if advertisers cannot be assured that the
advertising will actually be played (as opposed to being

circumvented), they may be unwilling to subsidize the electronic distribution of content.

Therefore, there is a need for a way to ensure that advertising material inserted in content is actually played
5 as originally designed and intended by the advertiser.

Brief Description of the Drawings

Figure 1 is a block diagram of one embodiment of the present invention; and

Figure 2 is a flow chart for software, in accordance
10 with one embodiment of the present invention.

Detailed Description

Referring to Figure 1, a processor-based system 10 may include a media player 60 that plays electronic content. Electronic content may include video such as television,
15 audio, games, software, or other media. The media player 60 may be, for example, a compact disk player, a magnetic card reader, an MP-3 player, or a digital video disk player, as examples.

The processor-based system 10 may be a conventional
20 desktop computer system, a set-top box, or a processor-based appliance, as examples. The processor-based system 10 may include the media player 60, a display system 54 for displaying visual material and a sound system 56 for playing audio material.

The processor-based system 10 includes a processor 40 coupled to a host bus 42. The host bus 42 couples a north bridge 44, a system memory 48, and a level two or L2 cache 46.

5 The north bridge 44 is in turn coupled to a bus 50 that couples to the display 54 through the display controller 52. The display 54 may be a conventional computer monitor or it may be a television receiver, as examples. Also coupled to the bus 50 is an audio
10 accelerator 58b. The audio accelerator 58b is coupled to a digital-to-analog converter 26 that in turn is coupled to the sound system 56. The sound system 56 may include speakers 16' and 16".

Also, coupled to the bus 50 is a south bridge 62. The
15 south bridge 62 is coupled to hubs that in turn couple to the media player 60 and a storage 66 such as a hard disk drive. Software 90 for implementing certain features of one embodiment of the present invention may be stored on the storage 66.

20 Also coupled to the south bridge 62, is an additional bus 76. The bus 76 is in turn coupled to a serial input/output (SIO) device 78 and a basic input/output system (BIOS) storage 88. The bus 78 may be coupled to a keyboard 80, a modem 84, and other peripheral devices 82,
25 for example, for allowing games to be played.

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The modem 84 may allow the processor-based system 10 to be coupled to a content distribution system such as the Internet. In addition, content may be received through airwave broadcasts, satellite systems, or cable television systems, as additional examples. In each case, the content may be provided to the system 10 over any available transport.

Coupled to the digital-to-analog converter 26 is a watermark detector 60. The watermark detector 60 detects whether watermarks present in the content received from a content provider are actually played as intended. For example, the watermark detector 60 may detect whether the watermarked material is played in full at the predetermined play speed and is not otherwise muted, masked, fast-forwarded or stripped from the content. The watermark detector 60 may be coupled to the media player 60 to control the play of content on the media player 60. Thus, content may not be played through the system 10 unless certain advertising material containing a watermark is played as originally intended.

The watermark may be a faint signal that is embedded in the advertising content, that is unstrippable and may not be degraded without degrading the desired content to an unacceptable extent. The faint signal may be designed to be undetectable by users. Watermarks are commonly used with content to protect them from being digitized or re-

sampled in the output/analog domain for resubmission to players as "copy always" material. Thus, watermarks are traditionally used to prevent or reveal theft of proprietary material.

5 These same watermarks may also be detected by the watermark detector 60 to ensure that watermarked advertising material is played as originally intended. Thus, advertising material that includes a watermark with an appropriate security code may be detected by the
10 watermark detector 60. The watermark detector 60 may determine the fidelity of the watermark and the time when the watermark is activated. The detector 60 may ensure that the advertising material is not fast forwarded or otherwise altered.

15 The watermark detector 60 may directly monitor the video or audio input/output channels to ensure that the channels correctly extract the advertising watermark if, and only if, the advertising is played by the digital output channel at the proper rate and for the duration of
20 the advertising, with no extraneous masking. The extracted advertising security code or watermark is then returned to a media player application to allow decryption of the remaining content by the media player 60.

 Alternatively, the watermark may be utilized to accrue
25 digital coupons in return for playing the advertising. That is, instead of only controlling the play of content,

the detection of the watermarks in the advertising may also be used to accrue rewards or benefits to users who actually play the advertisements as originally designed.

As still another example, the watermark may be
5 extracted and a security code may be parsed from the watermark. This information may be combined by the processor-based system 10 with an identifier for a particular user. Thus, the advertisement together with the user identifier may be collected for market research
10 purposes.

The watermark detector 60 may be utilized with content that is recorded on a medium such as a magnetic disk as well as content that is received with the watermark over an appropriate distribution network, such as the Internet, or
15 even a television distribution network such as an airwave, cable or satellite network.

Turning to Figure 2, the software 90 stored on the storage 66, in accordance with one embodiment of the present invention, may initially determine whether the time
20 for a commercial has arrived, as indicated in diamond 92. In one embodiment, commercials may be inserted at predetermined times. In such case, the software 90 may begin by determining if a commercial insertion time has arrived. In other embodiments in which the commercials are
25 provided automatically, for example, before the content is

actually played, the act illustrated by the diamond 92 may be unnecessary.

Once it has been determined that there is reason to monitor the play of a commercial, a check at diamond 94
5 determines whether the detector flag has been set. The detector flag may be set by the watermark detector 60 when the watermark detector 60 determines that a commercial has been played appropriately. This may include determining whether the commercial is played for the desired amount of
10 time and at the desired speed.

This determination that the commercial was played correctly may be based on stored, predetermined characterizing information for all or a variety of commercials. For example, it may be known that all
15 commercials have a predetermined speed and a predetermined duration. Alternatively, the watermark detector 60 may access a database either on the system 10 or externally thereof to determine the characteristics of a given commercial, for example, in a given piece of content, or at
20 a given time. The watermark detector 60 may then compare that information to what is actually detected through the digital-to-analog converter 26.

In any case, if the detector 60 determines that the advertisement has been correctly played, in one embodiment
25 of the present invention, it may set a flag for the software 90 to detect. When the flag setting is detected,

the software 90 reports a play validation as indicated at block 96. In other words, the software 90 may report to external sources that the advertisement was actually played by a given processor-based system 10 as intended. This
5 feedback to the advertiser may provide confirmation that in fact the advertising program is being executed as intended. It may also be utilized to develop statistics in some embodiments.

Next, in some embodiments, the advertisement
10 identifier may be added to a particular user's profile as indicated in block 98. A user profile may be developed for everyone who uses a given processor-based system 10. This profile may be developed by requiring a password to begin using the system 10. As a result, a profile may be
15 developed indicating which commercials are viewed by particular users.

This user profile information may be utilized to award credits, points, or rewards to particular users based on their commercial viewing practices. In addition, the
20 profile may be provided to marketing operations for targeted advertisements for particular users.

Next, the media player 60 may be unlocked as indicated in block 100. In one embodiment, this may mean that a key is provided for decrypting encrypted content and allowing
25 the play of that content in return for having watched a commercial. As another example, the media player 60 may be

allowed to actually operate to play the rest of the content. In still another embodiment, the system 10 either decrypts or allows the play of content received from an external source.

5 While the present invention has been described with respect to a limited number of embodiments, those skilled in the art will appreciate numerous modifications and variations therefrom. It is intended that the appended claims cover all such modifications and variations as fall
10 within the true spirit and scope of this present invention.

What is claimed is:

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1 14. The article of claim 13 further storing
2 instructions that enable the processor-based system to
3 accumulate rewards for successively playing advertisements.

1 15. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 determine that an advertisement was played at the
4 predetermined speed.

1 16. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 monitor the play of a recorded advertisement.

1 17. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 determine whether the advertisement was played at an
4 intended time.

1 18. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 monitor a watermark included with said advertisement.

1 19. The article of claim 11 further storing
2 instructions that enable the processor-based system to

3 control the operation of a media player in response to
4 monitoring the play of an advertisement.

1 20. The article of claim 11 further storing
2 instructions that enable the processor-based system to
3 associate an indication that an advertisement was played
4 with an identifier for a particular user.

1 21. A system comprising:
2 a processor-based device;
3 a media player coupled to said processor-based
4 device; and
5 a watermark detector coupled to said media
6 player, said watermark detects watermarks in advertisements
7 and controls the operation of said media player in response
8 to the detection of the play of an advertisement.

1 22. The system of claim 21 further including a
2 storage coupled to said device, said storage storing
3 instructions that enable the processor-based device to
4 monitor the play of an advertisement and accrue a credit
5 after determining the advertisement was played.

1 23. The system of claim 22 wherein said storage
2 stores instructions that enable the device to allow access
3 to content through said media player.

1 24. The system of claim 22 wherein said storage
2 stores instructions that enable the device to accrue a
3 reward in return for playing the advertisement.

1 25. The system of claim 21 wherein said watermark
2 detector determines whether an advertisement was played at
3 a predetermined speed.

1 26. The system of claim 21 wherein said storage
2 stores content for subsequent replay by said media player.

Table 1. Demographic characteristics of the study population	
Age (years)	Mean (SD)
18-24	20.5 (2.5)
25-34	29.5 (4.5)
35-44	39.5 (5.5)
45-54	49.5 (6.5)
55-64	59.5 (7.5)
65-74	69.5 (8.5)
75-84	79.5 (9.5)
85-94	89.5 (10.5)
95-104	99.5 (11.5)
105-114	109.5 (12.5)
115-124	119.5 (13.5)
125-134	129.5 (14.5)
135-144	139.5 (15.5)
145-154	149.5 (16.5)
155-164	159.5 (17.5)
165-174	169.5 (18.5)
175-184	179.5 (19.5)
185-194	189.5 (20.5)
195-204	199.5 (21.5)
205-214	209.5 (22.5)
215-224	219.5 (23.5)
225-234	229.5 (24.5)
235-244	239.5 (25.5)
245-254	249.5 (26.5)
255-264	259.5 (27.5)
265-274	269.5 (28.5)
275-284	279.5 (29.5)
285-294	289.5 (30.5)
295-304	299.5 (31.5)
305-314	309.5 (32.5)
315-324	319.5 (33.5)
325-334	329.5 (34.5)
335-344	339.5 (35.5)
345-354	349.5 (36.5)
355-364	359.5 (37.5)
365-374	369.5 (38.5)
375-384	379.5 (39.5)
385-394	389.5 (40.5)
395-404	399.5 (41.5)
405-414	409.5 (42.5)
415-424	419.5 (43.5)
425-434	429.5 (44.5)
435-444	439.5 (45.5)
445-454	449.5 (46.5)
455-464	459.5 (47.5)
465-474	469.5 (48.5)
475-484	479.5 (49.5)
485-494	489.5 (50.5)
495-504	499.5 (51.5)
505-514	509.5 (52.5)
515-524	519.5 (53.5)
525-534	529.5 (54.5)
535-544	539.5 (55.5)
545-554	549.5 (56.5)
555-564	559.5 (57.5)
565-574	569.5 (58.5)
575-584	579.5 (59.5)
585-594	589.5 (60.5)
595-604	599.5 (61.5)
605-614	609.5 (62.5)
615-624	619.5 (63.5)
625-634	629.5 (64.5)
635-644	639.5 (65.5)
645-654	649.5 (66.5)
655-664	659.5 (67.5)
665-674	669.5 (68.5)
675-684	679.5 (69.5)
685-694	689.5 (70.5)
695-704	699.5 (71.5)
705-714	709.5 (72.5)
715-724	719.5 (73.5)
725-734	729.5 (74.5)
735-744	739.5 (75.5)
745-754	749.5 (76.5)
755-764	759.5 (77.5)
765-774	769.5 (78.5)
775-784	779.5 (79.5)
785-794	789.5 (80.5)
795-804	799.5 (81.5)
805-814	809.5 (82.5)
815-824	819.5 (83.5)
825-834	829.5 (84.5)
835-844	839.5 (85.5)
845-854	849.5 (86.5)
855-864	859.5 (87.5)
865-874	869.5 (88.5)
875-884	879.5 (89.5)
885-894	889.5 (90.5)
895-904	899.5 (91.5)
905-914	909.5 (92.5)
915-924	919.5 (93.5)
925-934	929.5 (94.5)
935-944	939.5 (95.5)
945-954	949.5 (96.5)
955-964	959.5 (97.5)
965-974	969.5 (98.5)
975-984	979.5 (99.5)
985-994	989.5 (100.5)
995-1004	999.5 (101.5)
1005-1014	1009.5 (102.5)
1015-1024	1019.5 (103.5)
1025-1034	1029.5 (104.5)
1035-1044	1039.5 (105.5)
1045-1054	1049.5 (106.5)
1055-1064	1059.5 (107.5)
1065-1074	1069.5 (108.5)
1075-1084	1079.5 (109.5)
1085-1094	1089.5 (110.5)
1095-1104	1099.5 (111.5)
1105-1114	1109.5 (112.5)
1115-1124	1119.5 (113.5)
1125-1134	

A system may confirm that advertising was played as originally intended. For example, in one embodiment, a system may determine that an advertisement was played as originally intended and in return, a credit may be provided to the user. This credit may be the ability to play content that the user wishes to play or the credit may be in the form of rewards that are provided to the user, as another example. Thus, the system determines whether the advertisements are played correctly, for example, by detecting watermarks encoded within the advertising, and in return, provides indications that reward the user for playing the advertisement as intended.

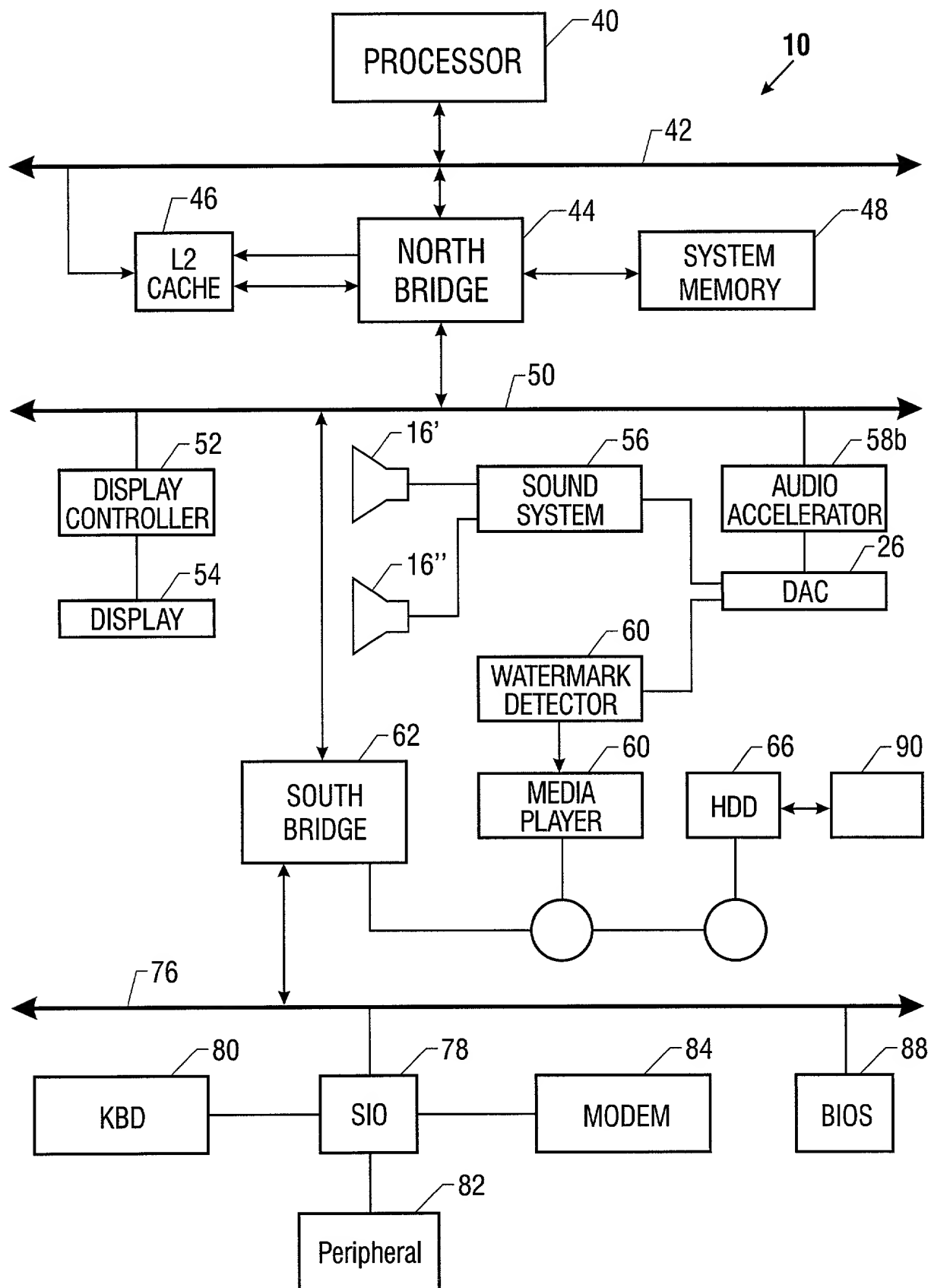
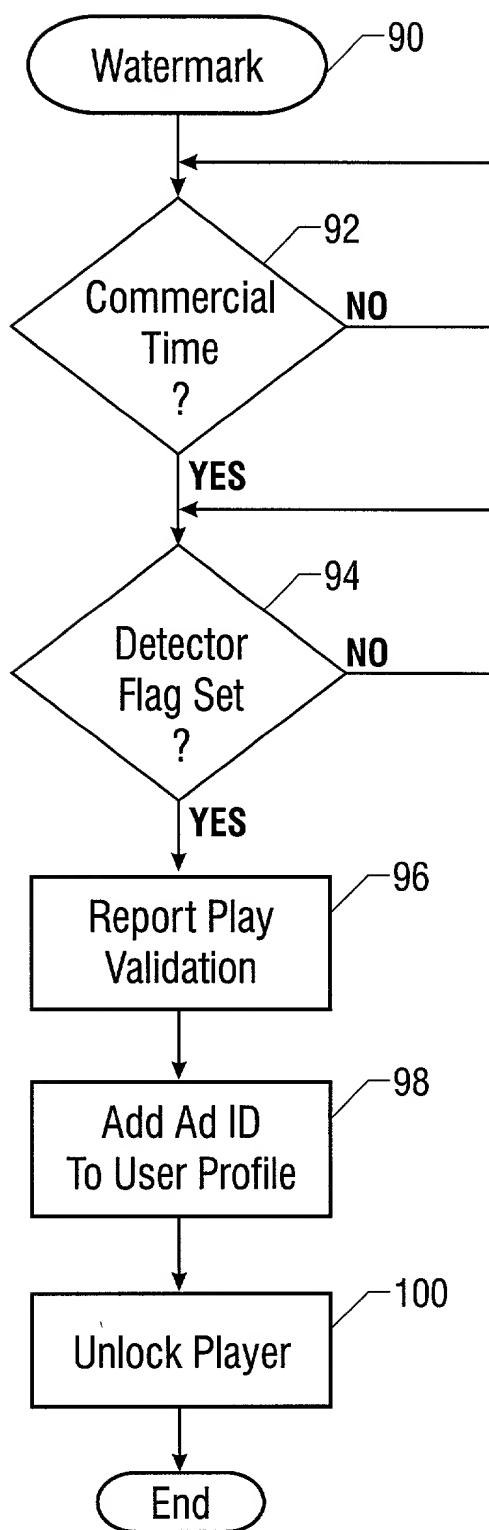


FIG. 1



DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

ENSURING THAT ADVERTISEMENTS ARE PLAYED

the specification of which

X	is attached hereto.
	was filed on _____ as
	United States Application Number _____
	or PCT International Application Number _____
	and was amended on _____
	(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above. I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, and that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

<u>Prior Foreign Application(s):</u>			<u>Priority Claimed</u>	
Number	(Country)	(Day/Month/Year Filed)	Yes	No
Number	(Country)	(Day/Month/Year Filed)	Yes	No
Number	(Country)	(Day/Month/Year Filed)	Yes	No

I hereby claim the benefit under title 35, United States Code, Section 119(e) of the United States provisional application(s) listed below:

_____ (Application Number)	_____ (Filing Date)
_____ (Application Number)	_____ (Filing Date)

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:


_____ (Application Number)	_____ Filing Date	_____ (Status-patented, pending, abandoned)
_____ (Application Number)	_____ Filing Date	_____ (Status-patented, pending, abandoned)

I hereby appoint Timothy N. Trop, Reg. No. 28,994; Fred G. Pruner, Jr., Reg. No. 40,779 and Dan C. Hu, Reg. No. 40,025 my patent attorneys, of TROP, PRUNER & HU, P.C., with offices located at 8554 Katy Freeway, Ste. 100, Houston, TX 77024, telephone (713) 468-8880, and Mirho, Charles A.; Registration No. 41,199; Novakoski, Leo V.; Registration No. 37,198; Reynolds, Thomas C.; Registration No. 32,488; Seddon, Kenneth M.; Registration No. 43,105; Seeley, Mark; Registration No. 32,299; Skabrat, Steven P.; Registration No. 36,279; Skaist, Howard A.; Registration No. 36,008; Su, Gene I.; Registration No. 45,140; Wells, Calvin E.; Registration No. 43,256; Werner, Raymond J.; Registration No. 34,752; Winkle, Robert G.; Registration No. 37,474; and Young, Charles K.; Registration No. 39,435 my patent attorneys, of INTEL CORPORATION with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Send correspondence to Timothy N. Trop, TROP, PRUNER & HU, P.C., 8554 Katy Freeway, Ste. 100, Houston, TX 77024 and direct telephone calls to Timothy N. Trop, (713) 468-8880.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

ERIC C. HANNAH

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10/9/00

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MICHAEL BOYD

Inventor's Signature: 

Date: 10/5/00

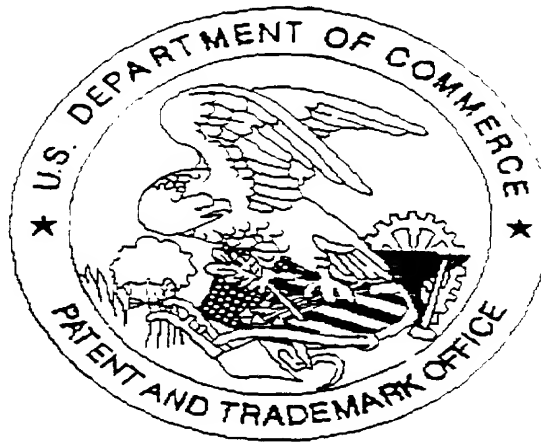
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Table 1. Demographic characteristics of the study population	
Age (years)	65.0 ± 1.5
Gender	
Male	50 (50.0%)
Female	50 (50.0%)
Education (years)	12.0 ± 1.0
Marital status	
Married	40 (80.0%)
Single	10 (20.0%)
Occupation	
Retired	40 (80.0%)
Unemployed	10 (20.0%)
Health status	
Good	40 (80.0%)
Poor	10 (20.0%)
Comorbidities	
Hypertension	20 (40.0%)
Diabetes	10 (20.0%)
Cholesterol	10 (20.0%)
Smoking status	
Smoker	10 (20.0%)
Non-smoker	40 (80.0%)
Alcohol consumption	
Regular	10 (20.0%)
Occasional	10 (20.0%)
Never	30 (60.0%)

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